WHAT IS CLAIMED IS

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1. A code conversion apparatus comprising:
input means for inputting compressed and
transformed input codes;

header information rewriting means for rewriting
10 only header information within the codes so as to change
a decoded state of the input codes; and

output means for outputting the codes, including
rewritten header information, to a target object.

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2. A code conversion apparatus comprising:
an input section to input compressed and
20 transformed input codes;

a header information rewriting section to rewrite
only header information within the codes so as to change
a decoded state of the input codes; and

an output section to output the codes, including
25 rewritten header information, to a target object.

3.   A code conversion apparatus comprising:

input means for inputting compressed and transformed input codes;

header information rewriting means for rewriting

5   only header information within the codes so as to partially decode the input codes; and

output means for outputting the codes, including rewritten header information, to a target object.

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4.   A code conversion apparatus comprising:

an input section to input compressed and

15   transformed input codes;

a header information rewriting section to rewrite only header information within the codes so as to partially decode the input codes; and

an output section to output the codes, including

20   rewritten header information, to a target object.

25   5.   The code conversion apparatus as claimed

in claim 4, wherein the codes are JPEG2000 format codes which have been subjected to a discrete wavelet transform.

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    6. The code conversion apparatus as claimed in claim 4, wherein the header information rewritten by

10 said header information rewriting section includes a number of elements in a highest level of a progressive order and header information related to the elements.

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    7. The code conversion apparatus as claimed in claim 6, wherein the elements in the highest level of the progressive order are layers (L), and the header

20 information to be rewritten includes information related to a number of the layers.

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8. The code conversion apparatus as claimed in claim 7, wherein said header information rewriting section rewrites the header information to reduce by n a number of layers of a marker segment SGcod of a default coding style marker (COD) within the header information when reducing the number of layers by n.

9. The code conversion apparatus as claimed in claim 6, wherein the elements in the highest level of the progressive order are resolution levels (R), and the header information to be rewritten is information related to an image size, a tile size, a number of resolution levels and a number of bit planes for every sub-band to be encoded.

10. The code conversion apparatus as claimed in claim 9, wherein the header information includes information related to a precinct size when a precinct is user defined.

11.   The code conversion apparatus as claimed in claim 9, wherein said header information rewriting section multiplies $1/2^n$ to the image size and the tile size, reduces the number of resolution levels by n,

5   reduces the precinct size by 3n, and deletes entries amounting to 3n bytes and related to the number of bit planes for every sub-band to be encoded, when multiplying the resolution level by $1/2^n$.

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12.   The code conversion apparatus as claimed in claim 6, wherein the elements in the highest level of

15   the progressive order are a number of components (C), and the header information to be rewritten includes a number of components and information related to sub-sampling for every component.

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13.   The code conversion apparatus as claimed in claim 12, wherein the header information to be

25   rewritten includes information related to existence of a

component transform when codes have been subjected to

component transform.

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14. The code conversion apparatus as claimed
in claim 12, wherein said header information rewriting
section reduces by 3n a value of a marker segment Lsiz

10 of a size marker (SIZ) within the header information,
reduces by n a value of a marker segment Csiz, and
deletes an amount corresponding to n components with
respect to marker segments Ssiz, XRsiz and Rsiz when
reducing the number of components by n.

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15. The code conversion apparatus as claimed

20 in claim 14, wherein said header information rewriting
section appropriately rewrites to 0 a content of a
marker segment SGcod of a default coding style marker
(COD) within the header information, as information
related to existence of component transform, when the

25 codes have been subjected to component transform.

16. The code conversion apparatus as claimed in claim 4, wherein said header information rewriting section rewrites header information related to image size.

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17. The code conversion apparatus as claimed
10 in claim 16, wherein said header information rewriting section rewrites header information including a marker segment Isot indicating a tile number of a tile start marker (SOT).

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18. The code conversion apparatus as claimed in claim 4, further comprising:
20   a code deleting section to delete a code which is no longer a target of a partial decoding due to rewriting of the header information by said header information rewriting section.

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19.   The code conversion apparatus as claimed in claim 9, wherein said header information rewriting section rewrites only header information for a resolution level so that the resolution level becomes a
5   multiple of 2 to the Nth power (2^N) closest to a desired multiplication factor which is not 2 to the Nth power (2^N) but multiplied to the resolution level to obtain a desired resolution level, and further comprising:

a decoding section to decode the codes including
10   the rewritten header information; and

a final multiplication factor adjusting section to adjust an image obtained by said decoding section so as to have the desired resolution level, based on an interpolation method using interpolation or decimation.
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20.   A code conversion apparatus comprising:
20   input means for inputting compressed and transformed input codes of an original image;

header information rewriting means for rewriting only header information within the codes so as to decode the codes into an image having a higher resolution than
25   the original image; and

output means for outputting the codes, including rewritten header information, to a target object.

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     21. A code conversion apparatus comprising:

an input section to input compressed and transformed input codes of an original image;

10   a header information rewriting section to rewrite only header information within the codes so as to decode the codes into an image having a higher resolution than the original image; and

an output section to output the codes, including 15 rewritten header information, to a target object.

20   22. The code conversion apparatus as claimed in claim 21, wherein the codes are JPEG2000 format codes which have been subjected to a discrete wavelet transform.

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23. The code conversion apparatus as claimed in claim 21, wherein the header information rewritten by said header information rewriting section includes a number of elements in a highest level of a progressive

5   order, and header information related to the elements, including an image size, a tile size and a number of resolution levels.

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24. The code conversion apparatus as claimed in claim 23, wherein said header information rewriting section multiplies 2^n to the image size and the tile

15   size, and increases the number of resolution levels by n, when multiplying the resolution level by 2^n.

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25. The code conversion apparatus as claimed in claim 21, wherein said header information rewriting section rewrites only header information for a resolution level so that the resolution level becomes a

25   multiple of 2 to the Nth power (2^N) closest to a desired

multiplication factor which is not 2 to the Nth power (2^N) but multiplied to the resolution level to obtain a desired resolution level, and further comprising:

   a decoding section to decode the codes including

5   the rewritten header information; and

   a final multiplication factor adjusting section to adjust an image obtained by said decoding section so as to have the desired resolution level, based on an interpolation method using interpolation or decimation.

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   26.   A code conversion method comprising the

15   steps of:

   (a)   inputting compressed and transformed input codes;

   (b)   rewriting only header information within the codes so as to change a decoded state of the input

20   codes; and

   (c)   outputting the codes, including rewritten header information, to a target object.

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27. A code conversion method comprising the steps of:

(a) inputting compressed and transformed input codes;

5 (b) rewriting only header information within the codes so as to partially decode the input codes; and

(c) outputting the codes, including rewritten header information, to a target object.

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28. The code conversion method as claimed in claim 27, wherein the codes are JPEG2000 format codes

15 which have been subjected to a discrete wavelet transform.

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29. The code conversion method as claimed in claim 27, wherein the header information rewritten by said step (b) includes a number of elements in a highest level of a progressive order and header information

25 related to the elements.

30. The code conversion method as claimed in claim 29, wherein the elements in the highest level of the progressive order are layers (L), and the header information to be rewritten includes information related to a number of the layers.

31. The code conversion method as claimed in claim 29, wherein the elements in the highest level of the progressive order are resolution levels (R), and the header information to be rewritten is information related to an image size, a tile size, a number of resolution levels and a number of bit planes for every sub-band to be encoded.

32. The code conversion method as claimed in claim 31, wherein the header information includes information related to a precinct size when a precinct is user defined.

33. The code conversion method as claimed in claim 29, wherein the elements in the highest level of the progressive order are a number of components (C), and the header information to be rewritten includes a number of components and information related to sub-sampling for every component.

34. The code conversion method as claimed in claim 33, wherein the header information to be rewritten includes information related to existence of a component transform when codes have been subjected to component transform.

35. The code conversion method as claimed in claim 27, wherein said step (b) rewrites header information related to image size.

36.   The code conversion method as claimed in claim 35, wherein said step (b) rewrites header information including a marker segment Isot indicating a tile number of a tile start marker (SOT).

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37.   The code conversion method as claimed in

10   claim 27, further comprising the steps of:

(d)   deleting a code which is no longer a target of a partial decoding due to rewriting of the header information by said step (b).

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38.   A code conversion method comprising the steps of:

20   (a)   inputting compressed and transformed input codes of an original image;

(b)   rewriting only header information within the codes so as to decode the codes into an image having a higher resolution than the original image; and

25   (c)   outputting the codes, including rewritten

header information, to a target object.

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39.   The code conversion method as claimed in claim 38, wherein the codes are JPEG2000 format codes which have been subjected to a discrete wavelet transform.

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40.   The code conversion method as claimed in
15   claim 21, wherein the header information rewritten by said step (b) includes a number of elements in a highest level of a progressive order, and header information related to the elements, including an image size, a tile size and a number of resolution levels.

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41.   A computer-readable storage medium which
25   stores a program for causing a computer to carry out a

code conversion process, said program comprising:

an input procedure causing the computer to input compressed and transformed input codes;

a header information rewriting procedure causing

5 the computer to rewrite only header information within the codes so as to change a decoded state of the input codes; and

an output procedure causing the computer to output the codes, including rewritten header information, to a

10 target object.

15   42. A computer-readable storage medium which stores a program for causing a computer to carry out a code conversion process, said program comprising:

an input procedure causing the computer to input compressed and transformed input codes;

20   a header information rewriting procedure causing the computer to rewrite only header information within the codes so as to partially decode the input codes; and

an output procedure causing the computer to output the codes, including rewritten header information, to a

25 target object.

43. The computer-readable storage medium as claimed in claim 42, wherein the codes are JPEG2000 format codes which have been subjected to a discrete wavelet transform.

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44. The computer-readable storage medium as

10 claimed in claim 42, wherein the header information rewritten by said header information rewriting procedure includes a number of elements in a highest level of a progressive order and header information related to the elements.

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45. The computer-readable storage medium as

20 claimed in claim 44, wherein the elements in the highest level of the progressive order are layers (L), and the header information to be rewritten includes information related to a number of the layers.

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46. The computer-readable storage medium as claimed in claim 44, wherein the elements in the highest level of the progressive order are resolution levels (R), and the header information to be rewritten is

5   information related to an image size, a tile size, a number of resolution levels and a number of bit planes for every sub-band to be encoded.

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47. The computer-readable storage medium as claimed in claim 46, wherein the header information includes information related to a precinct size when a

15   precinct is user defined.

20   48. The computer-readable storage medium as claimed in claim 44, wherein the elements in the highest level of the progressive order are a number of components (C), and the header information to be rewritten includes a number of components and

25   information related to sub-sampling for every component.

49. The computer-readable storage medium as claimed in claim 48, wherein the header information to be rewritten includes information related to existence of a component transform when codes have been subjected

5 to component transform.

10 50. The computer-readable storage medium as claimed in claim 42, wherein said header information rewriting procedure rewrites header information related to image size.

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51. The computer-readable storage medium as claimed in claim 50, wherein said header information

20 rewriting procedure rewrites header information including a marker segment Isot indicating a tile number of a tile start marker (SOT).

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52. The computer-readable storage medium as claimed in claim 43, wherein said program further comprises:

a deleting procedure causing the computer to delete a code which is no longer a target of a partial decoding due to rewriting of the header information by said header information rewriting procedure.

53. A computer-readable storage medium which stores a program for causing a computer to carry out a code conversion process, said program comprising:

an input procedure causing the computer to input compressed and transformed input codes of an original image;

a header information rewriting procedure causing the computer to rewrite only header information within the codes so as to decode the codes into an image having a higher resolution than the original image; and

an output procedure causing the computer to output the codes, including rewritten header information, to a target object.

54. The computer-readable storage medium as claimed in claim 53, wherein the codes are JPEG2000 format codes which have been subjected to a discrete wavelet transform.

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55. The computer-readable storage medium as

10 claimed in claim 53, wherein the header information rewritten by said header information rewriting procedure includes a number of elements in a highest level of a progressive order, and header information related to the elements, including an image size, a tile size and a

15 number of resolution levels.

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